

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-15 are pending in the application. Claims 10-12 are withdrawn from consideration; Claims 1-5 and 7-9 are amended; and new Claims 13-15 are added by the present amendment. Support for amended Claims 1 and 8, and new Claims 13-15 can be found in the original specification, claims and the drawings.¹ The claims are further amended to correct minor informalities and cosmetic matters of form. No new matter is presented.

In the outstanding Official Action, Claims 1, 2, 6 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Shibasaki et al. (U.S. Patent No. 4,202,092, hereinafter “Shibasaki”); and Claims 3-5, 7 and 9 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Applicant appreciatively acknowledges the indication of allowable subject matter. However, since Applicant considers the subject matter of amended independent Claims 1 and 8 allowable over the applied reference, Claims 3-5, 7 and 9 are presently maintained in dependent form.

Claims 1, 2, 6 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Shibasaki. Applicant respectfully submits that amended independent Claims 1 and 8 state novel features clearly not taught or rendered obvious by the applied reference.

An exemplary, non-limiting embodiment of the substrate carrying device of Claim 1 is depicted, for example, in Figs. 1B and 7 of the originally filed specification. The substrate carrying device includes a transfer mechanism (30), and a substrate support member (10) attached to the transfer mechanism. An extension support member (20; 20a, 20b, 20c) is then provided on the periphery of the substrate support member. The substrate support member

¹ See e.g., specification at Figs. 1B and 7.

includes a connecting part (11a) allowing the substrate support member to connect to the extension member so that the extension member supports a substrate (41, 41'; 41a, 41b, 41c) in cooperation with the substrate support member.

The substrate carrying device of amended Claim 1 is easily adjustable to compensate for changes in substrate (e.g., flat panel display) sizes by connecting or disconnecting the extension support member from the substrate support member. Thus, only a comparatively light part (i.e., the extension support member) is added to handle a larger substrate, and there is no need to exchange the entire structure for supporting a substrate (i.e., the substrate support member and the extension support member) to carry a large substrate. Accordingly, the time necessary to change the substrate carrying device to handle various sizes of substrates is reduced.

Turning to the applied reference, Shibasaki describes an apparatus for inserting parts such as resistors, IC chips, connectors, and the like into holes of printed circuit boards (P1, P2 and P3).² Specifically, Shibasaki describes that an apparatus including a supporting hook lever (12) including hooks (X1, X2 and X3) that determine the positions of the printed circuit boards (P1, P2 and P3).³ Further, as depicted in Fig. 5, a shift lever (35) is provided at both ends of which loading and unloading hooks (41 and 43) are pivoted.

In contrast, amended Claim 1 recites, *inter alia*, a substrate carrying device, comprising:

...an extension support member provided at a periphery of the substrate support member,
wherein the substrate support member includes a connecting part configured to connect the substrate support member to the extension support member...

In addressing the above-noted claimed features, the outstanding Official Action asserts that the hooks (X1, X2 and X3) correspond to the substrate support member and a

² Shibasaki, abstract.

³ Id., Figs. 3 and 5.

connecting part for connecting the substrate support member to an extension support member. Applicant respectfully traverses this assertion. Shibasaki shows that the hooks (X1, X2 and X3) are provided for supporting the printed circuit boards (P1, P2 and P3), but fails to teach or suggest that the hooks include a connecting part for connecting an extension support member. Also, as discussed below, Shibasaki fails to describe that his device includes a component corresponding to an extension support member whatsoever, and therefore it would not be reasonable to conclude that the hooks in Shibasaki's device include a connecting part for connecting such an extension support member, as recited in Claim 1.

Claim 1 is amended to specifically recite "an extension support member provided at a periphery of the substrate support member". As discussed above, Shibasaki fails to teach or suggest any member relating to an extension support member whatsoever, much less that such an extension support member is provided at a periphery of the substrate support member and connected to the substrate support member, as recited in amended Claim 1.

Also, the outstanding Official Action asserts that loading and unloading hooks (41 and 43) correspond to a peripheral connecting part of the substrate support member, as recited in Claim 1. However, in Fig. 5, Shibasaki depicts that the loading and unloading hooks (41 and 43) are attached only to the shift lever (35), which is provided separately from the hook lever (12). Thus, the loading and unloading hooks (41 and 43) are not included in the substrate support member, and are not configured to connect the substrate support member to an extension support member, as recited in amended Claim 1.

Accordingly, for at least the reasons discussed above, Applicant respectfully requests that the rejection of Claim 1 under 35 U.S.C. § 103 be withdrawn. As Claims 2-7, and new Claims 13-15 depend from amended Claim 1, it is also submitted that these claims also patentably define over Shibasaki.

Amended independent Claim 8 relates to substrate carrying device, as depicted in an exemplary, non-limiting embodiment, in Figs. 6A and 6B. The substrate carrying device includes a substrate support member (36), which is attached to a transfer mechanism (30) and configured to support a substrate. The substrate support member (36) includes a first support part (37) and a second support part (38) provided at a periphery of the first support part (37). The second support part (38) is movably connected to the first support part (37) to support a substrate in cooperation with the first support part (37).

An advantage of the substrate carrying device of amended Claim 8, is the ability to adapt to changes in the types of substrates (e.g., flat panel displays) by moving the second support part, thereby reducing the time necessary for preparing for a change in the types of substrates. Further, since a distance the second support part is moved is controlled based on the size of the substrate, adjustments to the change of the types of substrates can be made efficiently.

As described above, Shibasaki describes a supporting hook lever (12) including hooks (X1, X2 and X3) that determine the positions of the printed circuit boards (P1, P2 and P3), and a shift lever (35) at both ends of which loading and unloading hooks (41 and 43) are pivoted.⁴

In contrast, amended Claim 8 recites, *inter alia*, a substrate carrying device, comprising:

...the substrate support member includes a first support part, and a second support part, the second support part provided at a periphery of the first support part and movably connected to the first support part so as to support the substrate in cooperation with the first support part....

However, in Shibasaki, the hook lever (12) and the shift lever (35) are provided independently of each other. Therefore the hook lever (12) and shift lever (35) are not connected to one another, whatsoever, and no other components of Shibasaki's description

⁴ Id.

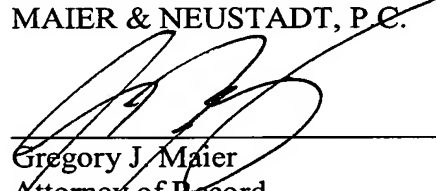
could reasonably correspond to the substrate support member and transfer mechanism, as recited in amended Claim 8. Accordingly, Shibasaki fails to teach or suggest a substrate support member, which is attached to a transfer mechanism and includes a first support part, and a second support part, the second support part provided at a periphery of the first support part and movably connected to the first support part, as recited in amended Claim 8.

Accordingly, for at least the reasons discussed above, Applicant respectfully requests that the rejection of Claim 8 under 35 U.S.C. § 103 be withdrawn. As Claim 9 depends from amended Claim 8, it is also submitted that this claim also patentably defines over Shibasaki.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-9 and 13-15 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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